

**COMPOSITIONS AND METHODS FOR PROTECTING TISSUES AND CELLS
FROM DAMAGE, AND FOR REPAIRING DAMAGED TISSUES**

ABSTRACT OF THE DISCLOSURE

Disclosed are methods and compositions for protecting cells and tissue from damage, particularly damage induced by a cytotoxic agent or a therapeutic treatment. The methods include contacting a progenitor cell with a member of the FRIL family of progenitor cell preservation factors.

Also disclosed are methods for protecting normal cells and tissues in an animal from cytotoxicity induced by a therapeutic treatment, such as chemotherapy or radiotherapy. These methods include administering a FRIL family member molecule to the animal receiving the therapeutic treatment, wherein the normal cells and tissues of the animal administered the FRIL family member are protected from the therapeutic treatment's cytotoxicity.

Also disclosed are methods for isolating a cell for repairing a tissue. The methods include contacting a population of cells with a FRIL family member molecule and isolating a cell specifically bound by the FRIL family member molecule, wherein the cell bound to the FRIL family member molecule is useful for repairing a tissue.